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WATER SUPPLY OFTLOOK CURRENT SERIAL RECORDS

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURFICE OF STATE - PRIVATE OF STATE - PRIVATE SNOW SURFICE - PRIVATE - PRIV

COLORADO and NEW MEXICO

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE and

COLORADO STATE UNIVERSITY STATE ENGINEER of COLORADO and STATE ENGINEER of NEW MEXICO

Data included in this report were obtained by the agencies named above in cooperation with the Bureau of Reclamation, U.S. Forest Service, National Park Service and other Federal State, and private organizations.

MAY 1, 1964



FEDERAL-STATE COOPERATIVE

SNOW SURVEYS AND WATER SUPPLY FORECASTS

for

COLORADO RIVER, PLATTE RIVER ARKANSAS RIVER AND RIO GRANDE DRAINAGE BASINS

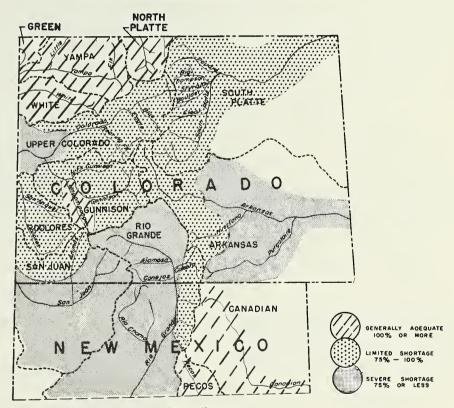
> Issued May 1, 1964

Report Prepared By
Jack N. Washichek, Snow Survey Supervisor
and
W. McAndrew, Assistant Snow Survey Supervis

Don W. Mc Andrew, Assistant Snow Survey Supervisor Fort Collins, Colorado

United States Department of Agriculture Soil Conservation Service and Colorado Agricultural Experiment Station Fort Collins, Colorado State Engineer of Colorado
Denver, Colorado
and
State Engineer of New Mexico
Santa Fe, New Mexico

WATER SUPPLY OUTLOOK



General Series Paper No. 805 Colorado Agricultural Experiment Station

THE MAP ON THIS PAGE INDICATES THE MOST PROBABLE WATER SUPPLY AS OF THE DATE OF THIS REPORT. ESTIMATES ASSUME AVERAGE CONDITIONS OF SNOW FALL, PRECIPITATION AND OTHER FACTORS FROM THIS DATE TO THE END OF THE FORECAST PERIOD. AS THE SEASON PROGRESSES ACCURACY OF ESTIMATES IMPROVE. IN ADDITION TO EXPECTED STREAMFLOW, RESERVOIR STORAGE, SOIL MOISTURE IN IRRIGATED AREAS, AND OTHER FACTORS ARE CONSIDERED IN ESTIMATING WATER SUPPLY. ESTIMATES APPLY TO IRRIGATED AREAS ALONG THE MAIN STREAMS AND MAY NOT INDICATE CONDITIONS ON SMALL TRIBUTARIES.

WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO as of

May 1, 1964

COLORADO CURRENT SNOW MEASUREMENTS INDICATE SOME RELIEF FROM THE NEAR DROUGTH CONDITIONS. SNOW FALL WAS BETTER THAN AVERAGE FOR APRIL OVER ALL OF THE HIGH MOUNTAINS OF THE STATE. THE STATE IS DIVIDED THREE MAJOR ZONES. THE NORTHERN PART WHICH SHOULD HAVE NORMAL TO SLIGHTLY ABOVE RUNOFF, THE MIDDLE WHICH SHOULD HAVE FLOWS OF 75% TO 100% AND THE SOUTHERN PART WHICH STILL CAN EXPECT SOME RATHER SEVERE SHORTAGES. CARRYOVER RESER-VOIR STORAGE IS AVERAGE ON THE SOUTH PLATTE. THE REST OF THE STATES RESERVOIRS ARE DEFICIENT. HIGH WINDS ARE DEPLETING SOIL MOISTURE IN THE IRRIGATED VALLEYS OF THE STATE, WHILE HIGH MOUNTAIN SOILS AWAIT THE MELTING SNOW TO FILL THIER VOIDS. STREAMFLOW IS BELOW NORMAL OVER THE STATE. SNOW HAS NOT STARTED MELTING.

SHORTAGES ARE STILL EXPECTED OVER MOST OF NEW MEXICO, ESPECIALLY ALONG THE MAIN STEM OF THE NEW MEXICO RIO GRANDE. SMALL TRIBUTARY STREAMS ORIGINATING IN THE SANGRE DE CRISTO MOUNTAINS SHOULD HAVE FAIRLY GOOD EARLY WATER, BUT WILL RECEDE RAPIDLY. THE PECOS AND CANADIAN DRAINAGES CAN EXPECT NEAR NORMAL WATER SUPPLIES. CARROVER STORAGE IN THE MAJOR RESERVOIRS of THE RIO GRANDE IS MUCH BELOW NORMAL. SOILS IN THE MOUNTAINS AND VALLEY ARE GENERALLY DRY. WATER CONSERVATION WILL BE A MUST THIS SUMMER.

TABLE OF CONTENTS :

WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS

WATERSHED I

SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Fort Collins, Big Thompson. Longmont, Boulder Valley, Jefferson, Teller-Park, Douglas County, Morgan, Kiowa, West Arapahoe, West Adams, East Adams, Platte Valley, Southeast Weld, and West Greeley Soil Conservation Districts.

WATERSHED II -

ARKANSAS RIVER WATERSHED

Describes water supply conditions in Lake County, Upper Arkansas, Fremont, Custer County Divide, Fountain Valley, Black Squirrel, Horse-Rush Creek, Central Colorado, Turkey Creek, Pueblo, Bessemer, Olney Boone, Cheyenne, Upper Huerfano, Stonewall, Spanish Peaks, Purgatoire, Branson Trinchera, Western Baca County, Southeastern Baca County, Two Buttes, Bent, Timpas, Northeast Prowers, Prowers, West Otero, East Otero, and Big Sandy Soil Conservation Districts.

WATERSHED III -

RIO GRANDE WATERSHED (COLORADO)

Describes water supply conditions in Rio Grande, Center, Mosca
Hooper, Mt. Blanca, Sanches, and Culebra Soil Conservation Districts
West Routt, East Routt, North Park, Upper White River,

WATERSHED IV _

RIO GRANDE WATERSHED (NEW MEXICO)

Describes water supply conditions in Lower Cebolla, Abiquiu-Vallecitos, Eastern Taos, Lindrith, Coyote-Canones, Espanola Valley, Pojoaque, Jemez, Santa Fe-Sandoval, Tijeras, Cuba, and Edgewood Soil Conservation Districts.

WATERSHED V -

DOLORES, SAN JUAN, AND ANIMAS RIVERS WATERSHED

Describes water supply conditions in San Miguel Basin. Dove Creek, Dolores. Mancos, LaPlata, Pine River, San Juan, and Glade Park Soil Conservation Districts.

WATERSHED VI -

GUNNISON RIVER WATERSHED

Describes water supply conditions in Delta, Gunnison, Cimarron, Shavano, and Uncompangre Soil Conservation Districts.

WATERSHED VII -

COLORADO RIVER WATERSHED

Describes water supply conditions in DeBeque, Lower Grand Valley, Bookcliff, Eagle County, Middle Park, Glade Park, Upper Grand Valley, Plateau Valley, South Side, and Mt. Sopris Soil Conservation Districts.

WATERSHED VIII -

YAMPA, WHITE AND NORTH PLATTE RIVERS WATERSHED

Lower White River, and Douglas Creek Soil Conservation Districts.

WATERSHED IX -

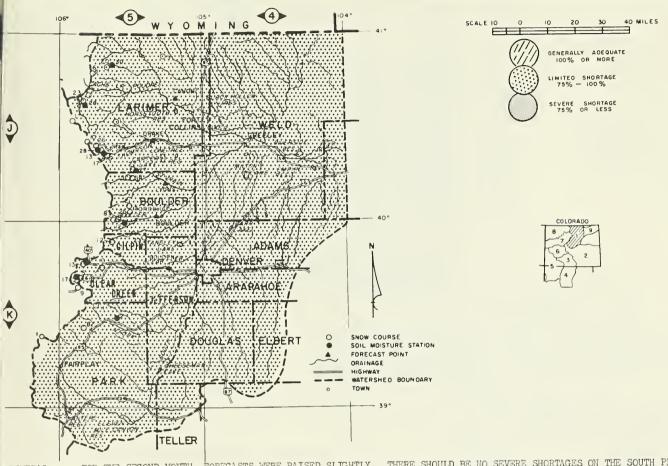
LOWER SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Sedgwick, South Platte, Haxton Peetz, Padroni, Morgan Rock Creek and Yuma Soil Conservation Districts.

SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of May 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE, COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL -- FOR THE SECOND MONTH, FORECASTS WERE RAISED SLIGHTLY. THERE SHOULD BE NO SEVERE SHORTAGES ON THE SOUTH PLATTE OR IT'S TRIBUTARIES, HOWEVER, SOME LATE SEASON SHORTAGES MAY STILL EXIST. RESERVOIR STORAGE IS GOOD AND WILL BE AN EXCELLENT SUPPLEMENTAL SUPPLY. VALLEY SOILS ARE IN FAIRLY GOOD CONDITION.

SNOW -- THE SNOW PACK INCREASED SLIGHTLY MORE THAN AVERAGE DURING APRIL. SOME OF THE SNOW COURSES ARE ABOVE MORMAL WHILE OTHERS ARE NORMAL OR SLIGHTLY LOWER. THE OVERALL SNOW PACK IS MUCH INTROVED OVER LAST YEAR AT THIS TIME. PRACTICALLY MONE OF THE PACK HAS STARTED TO MELT. PRESENT STREAMFLOW IS BELOW NORMAL.

RESERVOIR STORAGE -- CARRYOVER STORAGES IS ALMOST EXACTLY NORMAL SUPPLEMENTAL SUPPLY. CURRENT STORAGE IN THE 3 MAJOR BIG THOMPSON PROJECT RESERVOIRS IS 338,000 ACRE FEET. THERE HAS BEEN PRACTICALLY NO INFLOW TO RESERVOIRS THIS YEAR.

SOIL MOISTURE -- EXCEPTIONALLY HIGH WINDS ARE RAPIDLY DEPLETING SURFACE MOISTURE OVER MUCH OF THE BASIN. EARLY ESTIMATES OF VALLEY SOIL MOISTURE INDICATED FAIR TO GOOD CONDITIONS, HOWEVER, THESE EVALUATIONS ARE RAPIDLY GOING DOWN. COOL MOUNTAIN TEMPERATURES HAVE KEPT THE MOUNTAIN SNOW PACK INTACT. PRACTICALLY NO MELTING HAS TAKEN PLACE. SOILS REMAIN DRY.

FORECASTS -- FORECASTS RANGE FROM A HIGH OF 95% ON CLEAR CREEK TO A LOW OF 73% ON THE ST. VRAIN. BOULDER CREEK, BIG THOMPSON AND THE CACHE IA POUDRE SHOULD FLOW BETWEEN 75 AND 85% OF THE 15 YEAR AVERAGE.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist, Colorado R. G. Wilson, Area Conservationist, Littleton, Colorado

SNOW			CURRENT INFORMATION PAST REC			
SNOW COURSE	NO.	DATF OF SURVEY	SHOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER C	ES)
SNOW COLRSE SOUTH PIATTE RIVER AND TRIBUTARIES Baltimore Berthoud Falls Big South Boulder Falls Cameron Pass Chambers Lake Copeland Lake Deadman Hill Deer Ridge Empire Geneva Park Grizzly Peak (B) Hidden Valley Hoosier Pass Hour Glass Lake Jefferson Creek Lake Irene (B) Long's Peak Lost Lake Loveland Pass Loveland Lift No. 1 Pine Creek Red Feather Two Mile University Camp Ward Wild Basin		OF	DEPTH	CONTENT	0 2.3 0 6.7 19.8 1.0 0 0 12.5 11.0 7.2 2.7 1.9 16.6 5.3 18.7 0 3.0 15.6	

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABILE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57
Antero	15.6	0	15.7	14.9
Barr Lake	32.2	20.6	24.5	24.3
Black Hollow	8.0	4.0	4.6	3.4
Boyd Lake	60.0		39.4	18.5
Cache La Poudre	9.5	9.9	8.4	7.6
Carter Lake	108.9	100.4	104.0	69.2
Chambers Lake	8.8	4.4	1.8	2.6
Cheeseman	79.0	22.1	40.5	52.7
Cobb Lake	34.3	9.4	18.6	5.5
Eleven Mile	97.8	61.1	96.5	69.4
Fossil Creek	11.6	9.6	10.1	7.9
Gross	45.2	18.2	17.3	
Halligan	6.4	6.2	6.3	2.0
Horsetooth	143.5	109.9	114.7	94.0
Lake Loveland	13.2		12.3	7.0
Lone Tree	8.3		7.7	8.4
Mariano	5.2		5.5	3.1
Marshall	10.3	3.0	1.0	3.5
Marston	17.2	14.9	16.0	15.1
Milton	24.4	12.8	15.3	12.8
Standley	18.5	10.9	9.4	12.4
Terry Lake	8.2	6.2	5.7	7.2
Union	12.7	2.5	10.6	7.2
Windsor	18.6	13.5	14.7	11.4
1				

MEASURED FIRST OF MONTH

SOIL MOISTURE

	STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST OATA)
25	Alpine Camp Beaver Dam Feather Guard Station Hoop Creek Hoosier Pass Kenosha Pass Iaramie Road Two Mile Clear Creek	4-29 4-29 4-23 5-01 Destro 5-03 4-29 4-30	6.9 7.1 10.1 6.9 7.4.9 7.8 4.4 12.4 9.1 9.5	3.5 3.4 4.6 3.7 7.1 4.4 4.8	6.0 5.0 9.2 5.0 3.9 4.4 3.6 8.7 4.4	4.3 4.7 8.1 4.7 2.9 5.9 3.7 9.0 5.6 5.9

ALL PROFILES 4 FEET OEEP

NOTE: • - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVEO
(B) - ON ADJACENT DRAINAGE

STREAMFLOW FORECAST (1,000 AC. FT.)

May through septem	ABER		
AND	May -	THIS YEAR % VERAGE	AVERAGE 1943-57
Big Thompson at Drake (2) Boulder at Orodell Cache Ia Poudre at Canon(1 Clear Creek at Golden (3) Saint Vrain at Lyons	80 47 1) 151 130 58	79 90 83 98 73	101 52 183 132 80

This Report Prepared by
Jack N. Washichek and Don W.McAndrev
Soil Conservation Service
Colorado State University
Fort Collins, Colorado

 Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.

(2) Observed flow plus by-pass to power plants.(3) Observed flow minus diversions through

Jones Tunnel.

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UNITED STATES

DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey Colorado State University Fort Collins, Colorado

OFFICIAL BUSINESS

ARKANSAS RIVER WATERSHED IN COLORADO

as of

May 1, 1964

DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO





GENERAL - WATER CONSERVATION WILL BE THE KEY THIS SUMMER IF IRRIGATION REQUIREMENTS ARE TO BE MET. THE WATER OUT-LOOK ALONG THE ARKANSAS AND PURGATOIRE IS STILL BAD, BUT DROUGHT CONDITIONS ARE NOT EXPECTED. WATER SUPPLIES ON THE CUCHARAS RIVER AND THE WET MOUNTAIN VALLEY SHOULD BE ADEQUATE TO MEET DEMANDS THIS SEASON.

SNOW -- SNOW FALL WAS GOOD DURING APRIL ON THE UPPER ARKANSAS WATERSHED. THE SNOW PACK IS APPROACHING NORMAL AND IS ABOVE THAT OF LAST YEAR AT THIS TIME.

SOIL MOISTURE -- MOUNTAIN SOILS REMAIN VERY DRY. THIS CONDITION WILL SAP A GREAT DEAL OF THE MOISTURE CONTAINED IN THE SNOW PACK. SOIL MOISTURE IN THE IRRIGATED AREAS IS REPORTED AS FAIR TO POOR.

RESERVOIR STORAGE -- WATER HELD IN RESERVOIRS ALONG THE ARKANSAS RIVER IS ALMOST NON-EXISTANT. TWIN LAKES AND CLEAR CREEK RESERVOIRS ARE THE ONLY MAJOR RESERVOIRS IN THE AREA WITH A NEAR NORMAL CARRYOVER STORAGE. THE REST ARE DRY OR NEARLY SO.

FORECASTS - EXPECTED STREAMFLOWS WILL BE 73 TO 74% OF AVERAGE ON THE ARKANSAS, AND 65% ON THE PURGATOIRE THIS SUMMER. THE CUCHARAS IS FORECAST TO FLOW 100% OF NORMAL THIS YEAR.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY" ISSUED BY: SOIL CONSERVATION SERVICE

NO.	DATE	SNOW			
	OF	DEPTH	WATER CONTENT	WATER CONTENT (INCHES)	
	SURVEY	(INCHES)	(INCHES)	LAST YEAR	AVERAGI 1943 - 57
5M6	4-30	0	0.0	0	
5L3	4-29	21	6.3	0	
5M5	4-30	0	0.0	0	
6K23	4-30	40	7.7	9.0	
5M7	4-27	26	5.2	0	
6K17	4-29	25	9.0	2.3	8.0%
6K7	4-29	1	0.3	0	0.7
6K8	4-29	52	15.3	12.6	18.6
6L8	4-29	34	13.2	2.6	
5ML	4-27	14	5.4	0	2.8
6L4	4-29	53	18.9	9.8	17.7
6L5	4-28	30	9.0	10.1	11.2%
6K2	4-29	34	10.0	3.0	6.8
6L7	4-29	43	15.0	4.6	
6K3	4-29	31	8.5	4.8	9.2
5I.2	4-29	0	0.0	0	4.0%
	513 5M5 6K23 5M7 6K17 6K7 6K8 6L8 5M1 6L4 6L5 6K2 6L7 6K3	513	513	513	513

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57
Adobe Creek Clear Creek Cucharas Great Plains Horse Creek John Martin Meredith Model Sugar Loaf Twin Lakes	61.6 11.4 22.5 166.3 25.3 366.6 31.7 15.0 17.4 47.2	0 7.8 0.9 0 0 0 0 0 2.8 4.1 17.3	0 8.2 0 9.8 0 0 6.8 3.1 4.8 23.7	11.2 4.3 4.4 51.1 7.4 44.8 13.3 2.3 7.6 19.3

MEASURED FIRST OF MONTH

SOIL MOISTURE

5012	SOID MOISTORES							
STATION	DATE OF SURVEY	CAPACITY. (INCHES)	THIS	LAST YEAR	AVERAGE (ALL PAST DATA)			
Garfield King LaVeta Pass Leadville Twin Lakes Tunnel	4-29 4-29 5-01 4-29 4-28	6.7 3.3 11.9 7.8 4.5	2.9 1.5 11.9 4.5 1.2	4.4 2.4 9.2 5.5 3.1	4.3 2.1 11.8 4.8 3.1			

ALL PROFILES 4 FEET DEEP

NOTE: • . 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by

STREAMFLOW FORECAST (1,000 AC. FT.)

May THROUGH SEPTEMBER						
STREAM AND STATION	FORECAST May SEPT.		AVERAGE 1943-57			
Arkansas at Pueblo (1) Arkansas at Salida (1) Cucharas near IaVeta Purgatoire at Trinidad	236 235 13 32	73 74 100 65	323 318 13 50			

(1) Observed flow plus change in storage in Clear Creek, Twin Lakes, and Sugar Loaf Reservoirs minus diversions through Busk-Ivanhoe and Twin Lake Tunnels and Ewing, Fremont Pass, Wurtz and Columbine Ditches.

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Jack N. Washichek and Don W. McAndrew

Soil Conservation Service Colorado State University Fort Collins, Colorado

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

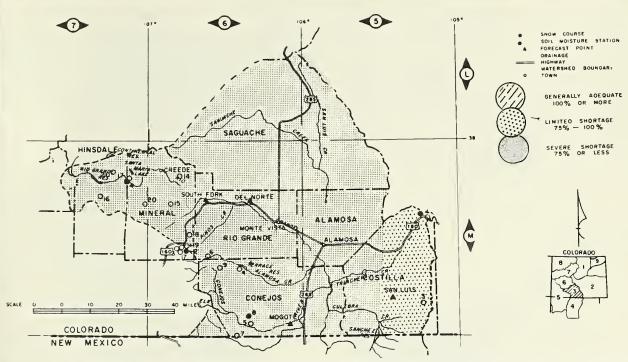
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OFFICIAL BUSINESS

UPPER RIO GRANDE WATERSHED IN COLORADO

as of May 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL - WATER SUPPLIES WILL BE SHORT FOR THOSE PEOPLE DEPENDING ON DIRECT FLOW RIGHTS IN THE SAN LUIS VALLEY. LATE SEASON WATER WILL BE CRITICALLY SHORT UNLESS THE MOUNTAINS RECEIVE MUCH ABOVE NORMAL RAINFALL THIS SUMMER.

SNOW -- THE SNOW PACK INCREASED DURING APRIL TO 85% OF NORMAL FOR THE UPPER BASIN AREA. WHAT SNOW THERE WAS AT THE LOW TO MEDIUM ELEVATIONS HAS OR IS RAPIDLY DISAPPEARING.

SOIL MOISTURE -- SOIL MOISTURE IS INCREASING IN THE MOUNTAIN ÁREAS, BUT THIS IS NORMAL WITH THE MELTING SNOWS. SOIL MOISTURE AT THIS TIME SHOULD BE SATURATED. THE PRESENT SITUATION WITH ONLY PARTIALLY SATURATED SOILS INDICATES VERY LITTLE IF ANY WATER WILL ORIGINATE FROM THESE ELEVATIONS. SOIL MOISTURE IS ALSO REPORTED AS FOOR IN THE VALLEY.

RESERVOIR STORAGE -- RESERVOIR STORAGE IS VERY LOW THIS YEAR BUT WATER USERS UNDER THERE SYSTEMS SHOULD HAVE LONGER

FORECASTS — RUNOFF IS EXPECTED TO BE IN THE 62 TO 75% RANGE THIS SUMMER. THE RIO GRANDE AT DEL NORTE IS FORECAST AT 320,000 ACRE FEET FOR THE MAY THROUGH SEPTEMBER PERIOD. SMALL TRIBUTARY STREAMS WILL PROBABLY SUBSIDE VERY RAPIDLY THIS SEASON. STREAMS ORIGINATING ON THE SANGRE DE CRISTO'S SHOULD HAVE GOOD EARLY FLOWS BUT WILL SUBSIDE RAPIDLY.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist, Colorado

RUNS THAN THE DIRECT FLOW RIGHTS.

Benny Martin, Area Conservationist, Monte Vista, Colorado

SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER C (INCHE LAST YEAR	23)
RIO GRANDE IN COLORADO						
Cochetopa Pass	6L6	4-23	17	5.8	0	2.8*
Hiway	6M19	4-27	59	18.8	17.6	
Lake Humphreys	6M15	4-29	0	0.0	0	0.2*
Pass Creek	6M18	4-27	12	4.1	0	
Pool Table Mountain	5M14	4-29	5	2.1	0	2.2%
Porcupine	7M20	4-29	24	7.0	1.7	5.9*
Red Mountain Pass (B)	7M1.5	4-30	78	29.0	24.3	25.6%
Santa Maria	7M17	Est.	0	0.0	0	0.7
Upper Rio Grande	7M16	Est.	0	0.0	0	2.3
Wolf Creek Pass	6M1	4-27	56	21.8	8.7	25.4
Wolf Creek Summit (B)	6M17	4-27	71	20.4	21.3	30.5
Alamosa River						
Silver Lakes	6M4	4-28	2	0.6	0	0.6
Summitville	6M6	4-28	53	13.4		21.9
CONEJOS RIVER	(145)	4-28	34	14.4		30.0
Cumbres Pass	6M7	4-30	32	13.2	_	13.3
Platoro	6M9	4-30	32	13.2	0	11.0%
River Springs	6M5				0	1.0
SANGRE DE CRISTO RANGE (Colo.)	5356		_		0	
Blue Lakes (B)	5M6 5M7	4-30	0	0.0	0	
Cucharas Pass (B)	5M3	4-27	26 7	5.2	0	6.3
Culebra	5M1	4-29	,	3.1	0	2.8
IaVeta Pass	J.FIII.	4-27	14	5.4		2.0

NOTE: • - 1943 - 57 (ADJUSTED AVERAGES)

NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by Jack N. Washichek and Don W. McAndrew Soil Conservation Service Colorado State University Fort Collins, Colorado

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DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey Colorado State University Fort Collins, Colorado

OFFICIAL BUSINESS

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	IS YEAR AVERAGE 1943 - 57
Continental Platoro Rio Grande Sanchez Santa Maria Terrace	26.7 60.0 57.1 103.2 43.6 17.7	1.5 3.0 5.3 6.5 3.5 2.3	4.7 5.9 12.0 7.9 5.0 4.4	8.9 5.3 11.6 11.1 8.4 3.5
,	EASURED FI	RST OF MONT	н	

SOIL MOISTURE

STATION	OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alberta Park	4-30	8.2	5.6	5.3	5.6
Bristol View	4-29	6.1	4.2	6.0	4.4
LaVeta Pass	5-01	11.9	11.9	9.2	11.8
Mogote	4-01	10.7	8.2	7.5	9.0

ALL PROFILES & FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

STREAM AND STATION	FORECAST May . SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Alamosa above Terrace Conejos near Mogote Rio Gr. Nr. Del Norte(1) Culebra at San Luis (2) Rio Gr. at 30Mi.Bdg.(1) South Fork at South Fork	16 95	63 71 71 69 76 62	65 177 448 23 125 108

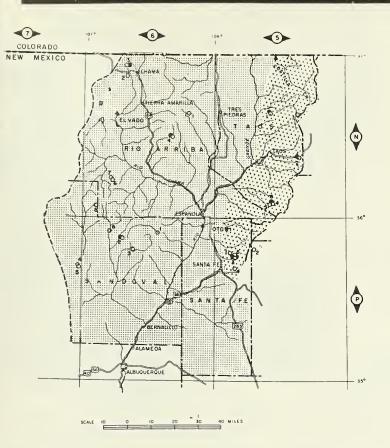
- (1) Observed flow plus change in storage in Santa Maria, Rio Grande and Continental Reservoir
- (2) Observed flow plus changes in storage in Sanchez Reservoir

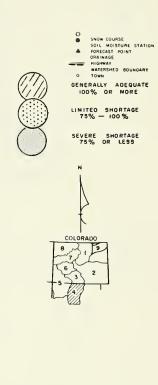
RIO GRANDE WATERSHED IN NEW MEXICO

as of

May 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO





GENERAL -- ONLY A FEW SNOW COURSES ARE MEASURED IN NEW MEXICO ON MAY 1. SNOW COURSES ON THE RIO GRANDE IN COLORADO INDICATE THAT THE SNOW PACK IS ABOUT 85% OF NORMAL FOR THIS DATE. MOST OF THE SNOW PACK IN NEW MEXICO HAS MELTED. ONLY THE VERY HIGH ELEVATION SNOW PACK REMAINS AT THIS TIME.

RESERVOIR STORAGE -- WATER HELD IN STORAGE THROUGHOUT THE BASIN IS MUCH BELOW NORMAL AND BELOW LAST YEAR AT THIS TIME.

STORAGE IN ELEPHANT BUTTE IS ABOUT 23% OF NORMAL FOR THIS DATE.

SOIL MOISTURE -- THE NEW MEXICO MOUNTAINS REMAIN DRIER THAN NORMAL. VALLEY SOILS ARE REPORTED TO BE VERY DRY ALSO.

SPRING RAINS WOULD BE OF UNTOLD VALUE IN THIS AREA.

FORECASTS — FORECASTS HAVE NOT CHANGED MATERIALLY FROM LAST MONTHS. TRIBUTARIES TO THE RIO GRANDE FROM THE SANGRE DE CRISTO'S SHOULD FLOW 75 TO 85% OF NORMAL. THE RIO CHAMA IS FORECAST AT 61% OF AVERAGE. THE RIO GRANDE IS FORECAST AT 290,000 ACRE FEET FOR THE MAY THROUGH JULY PERIOD. THE PECOS DRAINAGE SHOULD HAVE A NORMAL WATER FLOW THIS SUMMER.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

SNOW		CURRE	NT INFORM,			
SNOW COURSE	No	Date OF SURVEY	SNOW DEPTH UNCHEST	WATER CONTENT (INCHES)	WALER (
RIO GRANDE (COLORADO & NEW MEXICO) Cochetopa Pass (Colorado) Culebra Cumbres Pass Hiway Lake Humphreys LaVeta Pass Pass Creek Platoro Pool Table Porcupine River Springs Santa Maria Silver Lakes Summitville Upper Rio Grande Wolf Creek Pass Wolf Creek Summit Chamita (New Mexico) Rio En Medio	616 5M3 6M7 6M19 6M15 5M1 6M18 6M9 6M14 6M6 7M17 6M4 6M6 6M1 6M17 6N3 5P5	4-23 4-29 4-28 4-27 4-27 4-27 4-29 4-29 Est. Est. 4-28 4-30 4-27 4-27 4-28 Est.	17 7 34 59 0 14 12 32 5 24 0 0 2 53 0 0 56 71 0 0	5.8 3.1 14.4 18.8 0.0 5.4 4.1 13.2 2.1 7.0 0.0 0.0 0.6 13.4 0.0 21.8 20.4 0.0	0 0 1.6 17.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2.8* 6.3 13.3 0.2* 2.8* 5.9* 1.0 0.7 0.6 21.9 2.3 25.4 30.5*
NOTE: • - 1943 - 57 (ADJUSTED AVERAGES) NS - NO SURVEY (A) - AIR OBSERVED (B) - ON ADJACENT DRAINAGE			1			

Rio Grande at San Marcial is Forecast at 20% of the Blephant Butte Irrigation District's Normal.

This Report Prepared by
Jack N. Washichek and Don W. McAndrew
Soil Conservation Service
Colorado State University
Fort Collins, Colorado

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABIL CAPACITY	THIS YFAR	1 AST YEAR	15 YEAR AVERAGE 1943 - 57
Alamorgordo Caballo Elephant Butte El Vado McMillan-Avalon Red Bluff(Tex) Conchas	122.1 344.0 2206.8 194.5 44.5 307.0 600.0	23.0 21.5 124.0 3.4 16.0 31.1 81.0	59.0 69.5 353.2 14.0 13.0 29.3	36.0 130.3 551.7 85.8 8.3 68.5 265.2

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alberta Park Aqua Piedra Bateman Big Tesuque Bristol View Chamita Fenton Hill Mogote Red Summit Rio En Medio Taos Canyon	4-20 Est. 3-31 3-24 4-29 3-30 3-27 3-26 Est. 3-24 Est.	8.0 7.2 6.7 3.7 6.1 8.0 6.5 10.7 4.8 3.5 3.3	5.6 2.0 0.7 1.7 4.2 2.7 3.8 4.2 2.0 1.1	5.3 5.2 2.9 1.9 6.0 4.9 7.5 2.0 0.4 2.9	5.6 4.7* 2.7* 2.4* 4.4 5.4* * 9.0 2.1* 1.5* 2.9*
	ALI, PRO	FILES 4 FE	ET DEEP		

STRE MFLOW FORECAST (1.000 AC. FT.)

May THROUGH SEP	TEMBER		
STREAM AND STATION	FORECAST May SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Costilla at Costilla Pecos at Pecos Rio Chama nr. La Puenta Rio Grande at Otowi (10)* Rio Grande at San Marcial (10)* Rio Hondo nr. Valdez Red River at Questa **	18 41 102 290 130	75 100 61 63 40 88 80	24 41 167 458 331 16 20
Observed flow plus changes	n at		0

(10) Observed flow plus changes in storage in Santa Maria, Rio Grande, Continental, Terrace, Sanchez, Platoro and El Vado Reservoirs.

* Rio Grande at Otowi and Rio Grande at San Marcial Forecast and Average Mar-July inclusive.

*** Red River at Questa Forecast and Average May-July inclusive.

POSTAGE AND FEES PAID
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Snow Survey Colorado State University Fort Collins, Colorado

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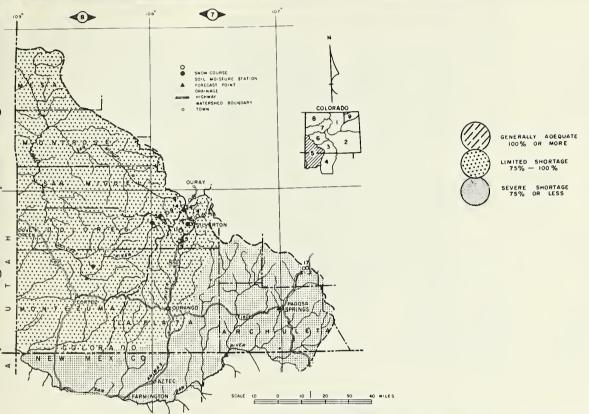
WATERSHED V

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

SAN MIGUEL - DOLORES - ANIMAS - SAN JUAN WATERSHEDS IN COLORADO AND NEW MEXICO

as of May 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE



GENERAL — THIS AREA HAS AN EXTREME VARIATION OF SNOW PACK, CONSEQUENTLY A WIDE VARIATION OF EXPECTED WATER SUPPLY.

WATER SUPPLIES WILL BE VERY SHORT IN THE SAN JUAN DRAINAGE WHILE THOSE WATER USERS DEPENDENT UPON THE DOLORES RIVER

SHOULD HAVE NEARLY ADEQUATE WATER. FORECASTS ARE UP 10% ON THE DOLORES AND ANIMAS WHILE OTHER STREAMS IN THE AREA SHOWED NO IMPROVEMENT.

SNOW -- THE SNOW PACK ON THE DOLORES AND ANIMAS IS ABOUT 120% OF NORMAL, WHILE SNOW ON THE SAN JUAN IS BELOW 75% OF THE 1943-57 AVERAGE. THE EXTREMELY LOW ELEVATION SNOW IS ALMOST GONE.

RESERVOIR STORAGE — STORAGE IN GROUNDHOG AND VALLECITO RESERVOIRS IS 44,300 ACRE FEET. THIS IS LESS THAN THE 15 YEAR AVERAGE AND ONLY 54% OF LAST YEARS STORAGE.

SOIL MOISTURE — DUE TO THE UNSEASONABLY COOL SPRING, THE MOUNTAIN SNOW PACK HAS NOT STARTED TO MELT AND SOILS ARE STILL DRY. VALLEY SOIL MOISTURE IS REPORTED AS FAIR TO GOOD.

FORECAST -- FORECASTS RANGE FROM A LOW OF 60% ON PIEDRA CREEK TO A HIGH OF 89% OF NORMAL ON THE DOLORES. FORECASTS ARE BASED ON PRECIPITATION BEING NORMAL FOR THE REMAINDER OF THE YEAR.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,
Colorado
Benny Martin, Area Conservationist,
Monte Vista, Colorado
E. A. Nicholson, Area Conservationist,
Grand Junction, Colorado

C. A. Tidwell, State Conservationist

New Mexico

Glen E. Murray, Area Conservationist Albuquerque, New Mexico

No. Since Course No. Since Course Since C	SNOW		CURRE	NT INFORMA	NOIT	PAST R	ECORD
Chama Divide (B) (New Mexico) Chamita (B) (New Mexico) Chamita (B) (New Mexico) Upper San Juan (Colorado) Wolf Creek Pass (B) Wolf Creek Summit ANIMAS RIVER Cascade Howardville Tronton Park (B) Mineral Creek Molas Iake Red Mountain Pass Silverton Sub-Station Spud Mountain DOLORES RIVER Lizzard Head Rico Telluride Chama Divide (B) (New Mexico) 6N2 4-28 0 0.00 0 0.00 0 125.1 12.5 30.3 4-27 61 25.1 12.5 30.3 4.27 71 20.4 21.3 30.5* 8.7 25.4 4.27 71 20.4 21.3 30.5* 8.7 25.4 4.28 35 13.8 0 7.0 2.9 5.0* 7.0 4.28 35 13.8 0 7.0 2.9 6.7* 7.0 2.0 5.0* 7.0 4.28 35 13.8 0 7.0 6.7* 6.7* 6.7* 6.7* 6.7* 6.7* 6.7* 6.7*	SNOW COURSE	NO.	OF	DEPTH	CONTENT	(INC HE	(5)
	Chama Divide (B) (New Mexico) Chamita (B) (New Mexico) Upper San Juan (Colorado) Wolf Creek Pass (B) Wolf Creek Summit ANIMAS RIVER Cascade Howardville Ironton Park (B) Mineral Creek Molas Lake Red Mountain Pass Silverton Sub-Station Spud Mountain DOLORES RIVER Lizzard Head Rico Telluride	6N3 6M3 6M1 6M17 7M5 7M13 7M6 7M14 7M12 6M19 7M4 7M11	4-28 4-27 4-27 4-27 4-30 4-30 4-30 4-30 4-30 4-30 4-30 4-30 4-30 4-30 4-30	0 61 56 71 19 21 35 34 26 78 0 54 42 0 6	0.0 25.1 21.8 20.4 6.3 7.0 13.8 12.3 8.9 29.0 0.0 18.9	0 12.5 8.7 21.3 0 2.0 0 1.3 2.9 24.3 0 15.4	25.4 30.5* 2.9 5.0* 7.0 9.3* 6.7* 25.6* 0.5 21.2* 12.9 1.3

RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	IS YEAR AVERAGE 1943 - 57
Groundhog	21.7	7.0	9.5	9.2
Vallecito	126.3	37.3	72.6	64.3

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR		AVERAGE (ALL PAST DATA)
Cascade Dolores Lizzard Head Mineral Creek Molas Lake Rico	4-30 4-28 4-28 4-30 4-30 4-28	9.1 19.6 11.8 5.7 9.4 13.8	7.0 2.9 4.4 2.7 3.0 3.7	6.6 * 9.0 3.9 6.4 8.6	6.8 11.4 8.5 4.1 5.8 9.0

ALL PROFILES 4 FEET DEEP

NOTE: • - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

STREAMFLOW FORECAST (1,000 AC. FT.)

PICLY THROUGH SEP.	EMDER		
STREAM AND STATION	FORECAST May- SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Animas at Durango Dolores at Dolores Florida near Hermosa IaFlata at Hesperus Los Pinos near Bayfield* Piedra Creek near Piedra San Juan at Rosa, N. M.	365 212 44 18 141 93 282	86 89 81 78 68 60 61	426 238 54 23 206 155 463

5 OBSERVED FLOW PLUS CHANGES IN STORAGE IN VALLECITO RESERVOIR

This Report Prepared by Jack N. Washichek and Don W. McAndrew Soil Conservation Service Colorado State University Fort Collins, Colorado

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SOIL CONSERVATION SERVICE

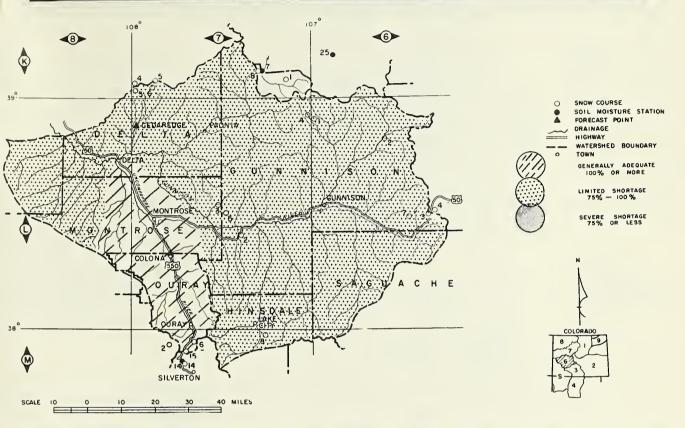
Snow Survey Colorado State University Fort Collins, Colorado

OFFICIAL BUSINESS

GUNNISON RIVER WATERSHED IN COLORADO

as of May 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE



GENERAL — WATER SUPPLIES WILL BE GOOD ON THE UPPER GUNNISON AND UNCOMPANGER RIVERS THIS SUMMER SEASON. THE SURFACE CREEK AND LOWER GUNNISON DRAINAGES WILL HAVE GOOD EARLY WATER BUT, SOME OF THE SHORTAGES MAY EXIST DURING THE LATE SEASON.

SNOW -- THE SNOW PACK ON THE GUNNISON DRAINAGE IS SLIGHTLY BETTER THAN NORMAL FOR THIS DATE. SNOW COVER ON THE UNCOMPANGE HAS INCREASED TO 130% OF NORMAL. SURFACE CREEK DRAINAGE REMAINS BELOW NORMAL.

RESERVOIR STORAGE -- STORAGE IN TAYLOR PARK RESERVOIR IS 75% OF NORMAL FOR THIS DATE.

SOIL MOISTURE — THE MOUNTAIN SOILS ARE DRIER THAN LAST YEAR AND MUCH DRIER THAN NORMAL FOR THIS DATE. THIS SIT-UATION INDICATES THAT MUCH OF THE SNOW PACK WILL BE NEEDED TO FILL THESE SOILS BEFORE RUNOFF WILL START. VALLEY SOILS ARE ALSO REPORTED TO BE DRY.

FORECASTS -- FORECASTS ARE UP 7 TO 10% OVER LAST MONTH. THE GUNNISON FORECASTED IS 950,000 ACRE FEET FOR THE MAY-SEPTEMBER PERIOD. THE UNCOMPANGRE IS EXPECTED TO FLOW 100% OF NORMAL FOR THE SAME PERIOD.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

SNO W		CURRE	NT INFORMA	NOIT	PAST R	ECORD
SNUW COURS!	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CO (INCHE LAST YEAR	
GUNNISON RIVER						1777
Alexander Lake	7K3	4-28	57	18.2	10.2	22.7
Black Mesa	7L5	4-30	51	20.0	7.1	
Blue Mesa	7L2	4-28	13	3.8	0	
Cochetopa Pass (B)	6L6	4-23	17	5.8	0	2.8*
Crested Butte	6L1	4-24	34	12.7	0	7.9
Keystone	7L3	4-24	51	19.6	10.6	
Lake City	7M8	4-30	19	5.2	0	3.1*
Long Draw	7L4	Est.	15	4.0	0	
Mesa Lakes (B)	7K4	4-27	46	17.5	3.0	14.4
Monarch Pass (B)	6L4	4-29	53	18.9	9.8	17.7
McClure Pass	7K8	4-28	35	12.0	0	12.2*
Mineral Creek (B)	7M14		34	12.3	1.3	9.3*
North Lost Trail (B)	7Kl	4-28	41	13.9	0.6	8.8
Park Cone	6L2	4-23	27	7.8	0.7	7.4
Park Reservoir	7K6	4-29	62	20.8	12.1	25.5
Porphyry Creek	6L3	4-29	59	21.5	10.0	16.7
Trickle Divide (B)	7K5	4-29	75	25.0	14.1	29.4
Tomichi	6L7	4-29	43	15.0	4.6	
UNCOMPAHGRE RIVER						
Ironton Park	7M6	4-28	35	13.8	0	7.0
Lizzard Head	7M3	4-28	42	15.7	8.7	12.9
Red Mountain Pass (B)	7M1.5		78	29.0	24:3	25.6*
Telluride	7M2	4-28	6	1.1	0	1.2
Trout Lake	7M9	4-28	35	12.2	0.5	8.6*

MEASURED FIRST OF MONTH

RESERVOIR STORAGE (1,000 AC. FT.

SOIL MOISTURE

Maroon 4-26 5.9 4.4 - 5.7 Mineral Cr. 4-30 5.7 2.7 3.9 4.1	STATION	OF		THIS YEAR	AVERAGE (ALL PAST DATA)
	Maroon Mineral Cr.	4 - 26 4 - 30	5.9 5.7	4.4 2.7	 5.7 4.1

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

May through september THIS YEAR % AVERAGE FORFCAST May-SEPT. STREAM AVERAGE 1943-57 STATION 79 Gunnison nr. Grand Jct. 950 1209 Surface Cr. at Cedaredge 14 88 16 Uncompangre at Colona 130 130 100

₩ OBSERVED FLOW PLUS CHANGES IN STORAGE IN VALLECITO RESERVOIR This Report Prepared by
Jack N. Washichek and Don W. McAndrew
Soil Conservation Service
Colorado State University
Fort Collins, Colorado

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NOTE: • - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

DEPARTMENT OF AGRICULTURE

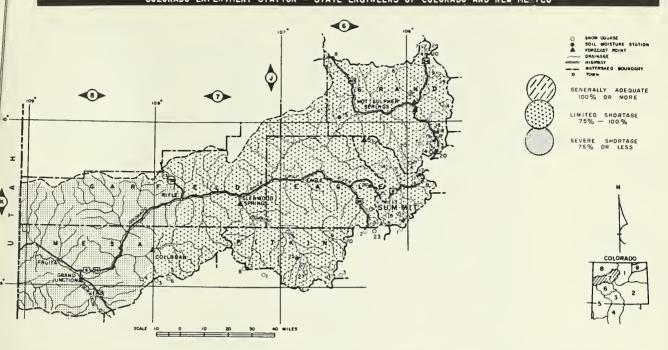
SOIL CONSERVATION SERVICE
Snow Survey
Colorado State University
Fort Collins, Colorado

OFFICIAL BUSINESS

COLORADO RIVER WATERSHED IN COLORADO

as of
May 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL -- WATER SUPPLY OUTLOOK WAS SOME IMPROVED DURING APRIL. THE SNOW PACK SHOWED A SLIGHT INCREASE DURING THE MONTH. MOUNTAIN SOILS ARE STILL QUITE DRY. SNOW MELT HAS NOT STARTED IN MOST AREAS DUE TO THE UNSEASONABLY COOL WEATHER. SOME SHORTAGES MAY EXIST, BUT THEY WILL BE LATE SEASON AND SHOULD NOT BE SERIOUS. SMALL TRIBUTARY STREAMS WILL HAVE REDUCED FLOW IN THE LATE SEASON.

SNOW -- THE SNOW PACK WAS IMPROVED 10% TO 15% OVER LAST MONTH. THE HIGH ELEVATION SNOWFIELDS ARE HOLDING UP EXCEPTALLY WELL. THIS IS DUE PRIMARILY TO THE COOL TEMPERATURES. NO SNOW MELT HAS TAKEN PLACE. STREAMS ARE STILL LOW AND CLEAR.

RESERVOIR STORAGE -- CARRYOVER STORAGE IN GREEN MOUNTAIN RESERVOIR AND IN GRANBY IS BETTER THAN LAST YEAR AT THIS TIME. GRANBY IS A HOLDING RESERVOIR FOR THE BIG THOMPSON PROJECT. STORAGE IN WILLIAMS FORK RESERVOIR IS 20,400 ACRE FEET. SOIL MOISTURE -- MOUNTAIN SOILS ARE STILL FAIRLY DRY. MUCH DRIER THAN LAST YEAR AT THIS TIME. VALLEY SOIL MOISTURE IS REPORTED AS FAIR.

FORECASTS -- FORECASTS VARY FROM A HIGH OF 96% ON THE WILLIAMS FORK TO 64% ON PLATEAU CREEK. MOST STREAMS ARE BEING FORECAST NEAR THE 80% OF NORMAL FIGURE. FORECASTS ARE BASED ON NEAR NORMAL PRECIPITATION FOR THE REMAINDER OF THE YEAR.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist, Colorado E. A. Nicholson, Area Conservationist Grand Junction, Colorado J. L. Hall, Area Conservationist, Glenwood Springs, Colorado

SNOW	CURRE	NT INFORMA	TION	PAST R	ECORD	
		DATE	SNOW	WATER	WATER C	ONTENT
SNOW COURSE	NO.	OF	(INCHES)	CONTENT (INCHES)	LAST YEAR	
COLORADO RIVER (UPPER)						
Arrow	5K6	4-30	29	11.1	2.6	7.8
Berthoud Pass	5K3	4-28	45	14.5	4.4	14.3
Berthoud Summit	5K14	4-28	62	18.9	13.3	20.2*
Blue River	6K21	4-29	21	6.8	0	
Cooper Hill	6K23	4-29	40	7.7	9.0	
Fiddlers Gulch	6K5	4-30	45	13.0	8.6	15.9
	6K8	4-29	52	15.3	12.6	18.6
Fremont Pass	6K13	4-30	14	5.0	0.3	5.6*
Frisco	6K20	4-30	25	7.8		4.8%
Glen Mar Ranch	6J11		31	, ,	4.0	9.5*
Gore Pass	6J16	4-28	15	9.2	4.0	2.9*
Granby	5J19	4-27		5.1	Ö	3.8*
Grand Lake		4-28	22	5.3		_
Grizzly Peak	5K9	4-28	59	19.5	12.5	20.1
Hoosier Pass (B)	6K1	4-29	37	10.0	7.2	11.9
Jones Pass	5K21	4-28	48	14.9	4.3	
Lake Irene	5J10	4-27	67	20.4	16.6	24.3
Lapland	5K7	4-30	21	7.3	0.6	9.1
Lulu	5J7	4-29	55	17.9	14.5	19.0
Lynx Pass	6K6	4-28	33	10.6	0	7.5
McKenzie Gulch	6K28	4-24	4	0.7	0	
Middle Fork Camp Ground	5K4	4-27	28	8.5	0	6.0
Milner Pass	5J24	4-27	41	11.7	9.0	10.5*
Monarch Lake	5J14	5-01	24	5.3	2.5	5.4*
North Inlet Grand Lake	5J9	4-26	25	5.7	1.7	7.0
Pando	6K19	4-29	27	10.7	0.5	8.1*
Phantom Valley	5J4	4-27	30	7.5	0.2	6.6
Ranch Creek	5K18	4-30	27	8.1	4.0	
Shrine Pass	6K9	4-30	56	17.8	11.6	18.7
Snake River	5K16	4-28	ĺíı	3.8	0	5.6*
Summit Ranch	6K14	4-28	16	5.0	0	6.64
Tennessee Pass	6K2	4-29	34	10.0	3.0	6.8
Vail Pass	6K15	4-30	40	14.1	7.1	16.8%
Vasquez Creek	5K19	4-29	36	12.5	3.6	
Willow Creek Pass	6J5	4-27	30	8.3	5.5	11.5
ROARING FORK RIVER						
Aspen	7J22	4-27	45	12.8	10.5	
Independence Pass Tunnel	6K4	4-29	54	18.3	3.8	17.8
Ivanhoe	6K10	, , , ,	7.1		13.1	17.8%
Lift	7K27	4-27	50	18.2	12.2	
McClure Pass	7K8	4-28	35	12.0	0	12.2*
Nast	6K6	4-28	12	3.2	0	1.6
North Lost Trail	7Kl	4-28	41	13.9	0	8.8
PLATEAU CREEK	,	7 ~0	7-	17.7		
Alexander (B)	7K3	4-28	57	18.2	10.2	22.7
Mesa Lakes	7K4	4-27	46	17.5	3.0	14.4
Park Reservoir (B)	7K6	4-27	62	20.8	12.1	25.5
Trickle Divide	7K5	4-27	75	25.0	14.1	29.4
NOTE: * - 1941 - 57 (ADJUSTED AVERAGES)	120	4-27	()	27.0	T-4 - T	~/•4

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

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DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE Snow Survey Colorado State University Fort Collins, Colorado

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RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST	15 YEAR AVERAGE 1943 - 57
Granby * Green Mt.	465.5	128.0 56.6	114.7	185.3 52.3
William Fork	96.8	20.4	44.6	

MEASURED FIRST OF MONTH

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Berthoud Pass Blue River Gore Maroon Muddy Pass Placita Ranch Creek Vail Vasquez	4-28 4-28 4-26 4-27 4-27 4-30 4-30 4-29	3.9 4.2 4.9 5.9 11.1 9.3 8.7 12.3 11.0	2.8 3.3 4.4 5.7 5.4 5.8 8.7 7.3	3.8 4.2 2.6 4.1 11.1 5.7 6.9 12.1 11.0	2.8 2.7 4.4 5.7 8.5 8.1 6.5 11.1 9.2

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 AC. FT.)

THROUGH SEP	LWDEK		
STREAM AND STATION	May- SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Blue River abv.Green Mt.	203	74	275
Colo. R. nr. Granby(4)	190	85	223
Colo. R. at Glenwood Sp.	1175	82	1428
Plateau Cr. nr. Collbran	34	64	53
Roaring Fk at Gl. Spgs(6)	610	80	757
Williams Fk nr. Parshall Willow near Granby	. 32	96 80,	73

(4) Observed flow plus diversions by Adams Tunnel and Grand River ditch plus change in storage in Granby Reservoir.

(5) Observed flow plus the changes as indicated in (4) plus Moffat Ditch.

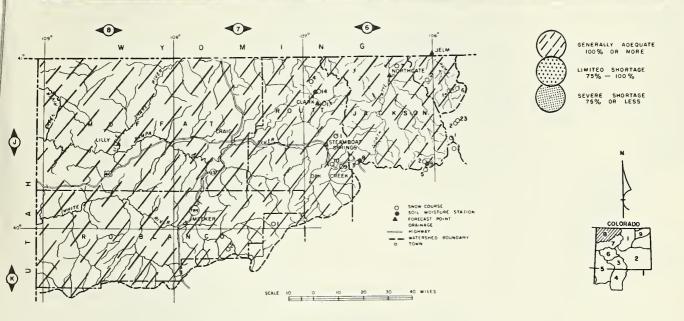
(6) Observed flow plus diversion through Twin Lakes tunnel

This Report Prepared by
Jack N. Washichek and Don W. McAndrew
Soil Conservation Service
Colorado State University
Fort Collins, Colorado

YAMPA, WHITE, AND NORTH PLATTE RIVERS WATERSHEDS IN COLORADO

as of May 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL - THE SNOW PACK IN THE YAMPA, WHITE AND NORTH PLATTE AREAS HAS STEADILY INCREASED FROM THE FIRST OF THE SEASON. NO WATER SHORTAGES ARE IN SIGHT IN THESE AREAS THIS SUMMER.

SNOW — THE SNOW PACK CONTINUED TO INCREASE DURING APRIL. THE SNOW PACK IS CURRENTLY 107% OF NORMAL ON THE NORTH PLATTE RIVER DRAINAGE. THE YAMPA RIVER DRAINAGE INCREASED FROM 80% LAST MONTH 123% OF NORMAL FOR MAY 1. THE WHITE RIVER HAS A 145% OF NORMAL SNOW PACK FOR THIS DATE.

SOIL MOISTURE - MOUNTAIN SOILS ARE STILL DRIER THAN NORMAL IN THE YAMPA AND WHITE DRAINAGES. SOME OF THE SNOW WATER WILL BE NEEDED TO FILL THESE SOILS TO FIELD CAPACITY. THE NORTH PLATTE AREA SOILS ARE NEAR NORMAL SATURATION.

FORECASTS -- FORECASTS RANGE FROM 91% OF NORMAL ON THE LARAMIE RIVER TO 105% OF NORMAL ON THE ELK. THE YAMPA RIVER IS FORECAST AT 250,000 ACRE FEET AT STEAMBOAT SPRINGS FOR THE MAY - SEPTEMBER PERIOD.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CO	S)
Cameron Pass	5.11	SURVET	(INCHES)	(INCHES)	LAST YEAR	
Cameron Pass	5.11					AVERAGE 1943 - 57
	5.11					
		4-28	92	32.2	19.8	25.6
	613	4-27	67	23.5	21.9	21.3
	5J6	4-27	50	17.1		17.7
	5J15	4-24	34	13.2	57	9.0*
	6J7	4-29	17	5.4	0.4	2.7*
	6J2	4-27	22	5.5	1.0	6.5
	6J12	4-25	58	17.8	11.5	20.9
	6J5	4-27	30	8.3	5.5	11.5
YAMPA RIVER						
	7J3	4-29	27	9.7	0 -	
	6J13	4-29	17	7.1	0	
0 ,	6J3	4-27	67	23.5	21.9	21.3
	611	4-28	53	19.3	13.3	15.2
	674	4-28	54	18.9	12.6	12.8
	6J14	4-28	35	13.8	4.4	
	616	4-28	33	10.6	10	7.5
	6J10	4-28	37	12.6	4.4	8.3*
	6J9	4-28	.75	27.6	21.3	26.1*
WHITE RIVER						
	7K2	4-27	64	19.9	3.1	14.6
Rio Blanco	7J1	4-28	37	16.4	0	10.2

00.		
SOIL	MOISTUR	E

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Hahn's Peak Laramie Road Muddy Pass Two Mile Willow Pass	4-28 5-03 4-27 4-29 4-27	19.0 12.4 11.1 9.1 9.5			9.0 8.5 5.6 6.9

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1.000 AC. FT.)

May through september						
STREAM AND STATION	FORECAST May- SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57			
Elk at Clark Laramie at Jelm Little Smake at Lilly White at Meeker Yampa at Steamboat Sprgs.	210 98 270 300 250	105 91 93 99 104	200 108 289 304 241			

NOTE: * - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by Jack N. Washichek and Don W. McAndrew Soil Conservation Service Colorado State University Fort Collins, Colorado

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DEPARTMENT OF AGRICULTURE

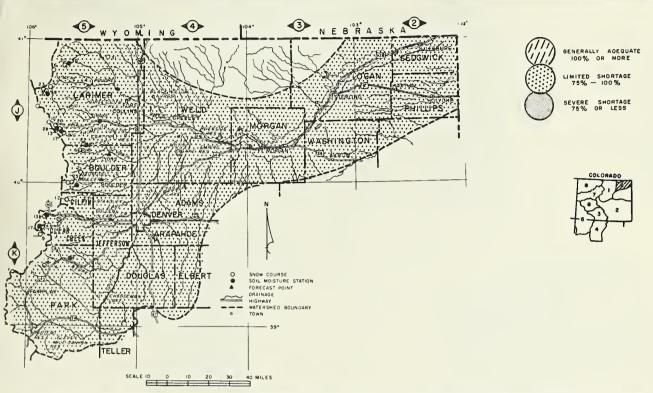
SOIL CONSERVATION SERVICE Snow Survey Colorado State University Fort Collins, Colorado

OFFICIAL BUSINESS

LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of May 1, 1964

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



GENERAL -- FOR THE SECOND MONTH, FORECASTS WERE RAISED SLIGHTLY. THERE SHOULD BE NO SEVERE SHORTAGES ON THE SOUTH
PLATTE OR IT'S TRIBUTARIES, HOWEVER, SOME LATE SEASON SHORTAGES MAY STILL EXIST. RESERVOIR STORAGE IS GOOD AND WILL BE
AN EXCELLENT SUPPLEMENTAL SUPPLY. VALLEY SOILS ARE IN FAIRLY GOOD CONDITION.

SNOW -- THE SNOW PACK INCREASED SLIGHTLY MORE THAN AVERAGE DURING APRIL. SOME OF THE SNOW COURSES ARE ABOVE NORMAL WHILE OTHERS ARE NORMAL OR SLIGHTLY LOWER. THE OVERALL SNOW PACK IS MUCH IMPROVED OVER LAST YEAR AT THIS TIME. PRACTICALLY NONE OF THE PACK HAS STARTED TO MELT. PRESENT STREAMFLOW IS BELOW NORMAL.

RESERVOIR STORAGE -- WATER HELD IN STORAGE IN THE LOWER SOUTH PLATTE AREA WILL BE AN EXCELLENT SUPPLEMENT TO THE BELOW NORMAL ANTICIPATED STREAMFLOW THIS COMING SUMMER. STORAGE IS CURRENTLY 97% OF NORMAL IN THE LOWER VALLEY AREA.

SOIL MOISTURE -- EXCEPTIONALLY HIGH WINDS ARE RAPIDLY DEPLETING SURFACE MOISTURE OVER MUCH OF THE BASIN. EARLY ESTIMATES OF VALLEY SOIL MOISTURE INDICATED FAIR TO GOOD CONDITIONS, HOWEVER, THESE EVALUATIONS ARE RAPIDLY GOING DOWN.

COOL MOUNTAIN TEMPERATURES HAVE KEPT THE MOUNTAIN SNOW PACK INTACT. PRACTICALLY NO MELTING HAS TAKEN PLACE. SOILS
REMAIN DRY.

FORECASTS -- FORECASTS RANGE FROM A HIGH OF 95% ON CLEAR CREEK TO A LOW OF 73% ON THE ST. VRAIN. BOULDER CREEK, BIG THOMPSON AND THE CACHE IA POUDRE SHOULD FLOW BETWEEN 75 AND 85% OF THE YEAR AVERAGE.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTROL	CS1
SOUTH PIATTE RIVER AND TRIBUTARIES Baltimore Berthoud Falls Big South Boulder Falls Cameron Pass Chambers Lake Copeland Lake Deadman Hill Deer Ridge Empire Geneva Park Grizzly Peak (B) Hidden Valley Hoosier Pass Hour Glass Lake Jefferson Creek Lake Irene (B) Long's Peak Lost Lake Loveland Lift No.1 Pine Creek Red Feather Two Mile University Camp Ward Wild Basin		4-28 4-28 5-03 4-29 4-28 5-02 4-29 4-27 4-20	DEPTH	CONTENT	(INC HE	

STREAMFLOW FORECAST

(1,000 AC. FT.)

MAY THROUGH SEPT	EMBER		
STREAM AND STATION	May -	THIS YEAR % AVERAGE	AVERAGE 1943-57
Big Thompson at Drake(2) Boulder at Orodell Cache La Poud.at Canon(1) Clear Creek at Golden(3) Saint Vrain at Lyons		79 90 83 98 73	101 52 183 132 80

- (1) Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.
- (2) Observed flow plus by-pass to power plants.(3) Observed flow minus diversions through Jones Tunnel.

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SOIL CONSERVATION SERVICE Snow Survey Colorado State University Fort Collins, Colorado

OFFICIAL BUSINESS

RESERVOIR STORAGE (1,000 AC. FT.)

	MEASURED FIRST OF MONTH					
RESERVOIR	USABILE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57		
Carter * Cheeseman Eleven Mile Empire Horsetooth* Jackson Lake Julesburg Point of Rocks Prewitt Riverside	108.9 79.0 97.8 37.7 143.5 35.4 228.2 70.0 30.0 57.5	100.4 22.1 61.1 33.0 109.9 34.4 23.3 53.4 12.4 60.9	104.0 40.5 96.3 33.0 114.7 33.4 22.5 69.5 24.1 56.7	69.2 52.7 69.4 29.5 94.0 34.3 22.1 61.7 21.5 50.4		

* Carter and Horsetooth Reservoirs are part of the Big Thompson Project.

SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alpine Camp Beaver Dam Feather Guard Station Hoop Creek Hoosier Fass Kenosha Pass Laramie Road Two Mile Clear Creek	4-29 4-29 4-23 5-01 Dest. 5-03 4-29 4-30	6.9 7.1 10.1 6.9 4.9 7.8 4.4 12.4 9.1 9.5	3.5 3.4 4.6 3.7 7.1 4.4 4.8	6.0 5.0 9.2 5.0 3.9 4.4 3.6 8.7 4.4	4.3 4.7 8.1 4.7 2.9 5.9 3.7 9.0 5.6 5.9

ALL PROFILES 4 FEET DLEP

LIST OF COOPERATORS

The following organizations cooperate in snow surveys for the Colorado, Platte, Arkansas and Rio Grande watersheds. Many other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

STATE

Colorado State Engineer
New Mexico State Engineer
Nebraska State Engineer
Colorado Experiment Station
Rocky Mountain Forest and Range Experiment Station

FEDERAL

Department of Agriculture

Forest Service Soil Conservation Service

Department of Interior

Bureau of Reclamation Geological Survey National Park Service Indian Service

Department of Commerce

Weather Bureau

War Department

Army Engineer Corps

Atomic Energy Commission

INVESTOR OWNED UTILITIES

Colorado Public Service Company Western Colorado Power Company Public Service Company of New Mexico

MUNICIPALITIES

City of Denver City of Boulder

WATER USERS ORGANIZATIONS

Arkansas Valley Ditch Association Colorado River Water Conservation District

IRRIGATION PROJECTS

Farmers Reservoir and Irrigation Company San Luis Valley Irrigation District Santa Maria Reservoir Company Costilla Land Company Uncompangre Valley Water Users' Association Twin Lakes Reservoir and Canal Company UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
240 SOUTH HALL
COLORADO STATE UNIVERSITY
FORT COLLINS, COLORADO 80521

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FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"